



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,215	08/06/2001	Brian Gventer	NC25571	8983

26343 7590 12/03/2004

STEVEN A. SHAW
NOKIA, INC.
6000 CONNECTION DRIVE
MD 1-4-755
IRVING, TX 75039

EXAMINER

BELL, MELTIN

ART UNIT	PAPER NUMBER
----------	--------------

2121

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,215

Applicant(s)

GVENTER, BRIAN

Examiner

Meltin Bell

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to application **09/923,215** filed 08/06/2001 as well as the Affidavit/Declaration under 37 C.F.R. 1.131, Information Disclosure Statement, Specification, Drawing Corrections and Amendment all filed 08/18/2004. Claims 1-4 have been canceled. Claims 5-17 have been entered and examined. An action on the merits of claims 5-17 appears below.

Claim Rejections - 35 USC § 103

Applicant's arguments have been considered but are moot in view of these new ground(s) of rejection. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* USPN 5,566,092 (October 15, 1996) in view of *Neves et al* "An artificial neural network-genetic based approach for time series forecasting" (3-5 Dec. 1997) and in further view of *Amenta et al* "An Experiment in Standardizing Software for a Monitoring and Control Device for Power Stations" (21-25 Oct. 1990).

Art Unit: 2121

Regarding claim 5:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)
- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network
- instructions to report diagnosis results to a user (column 25, lines 39-45; column 30, lines 29-39)

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)
- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1)

Amenta et al teaches,

Art Unit: 2121

- instructions to send an electronic report (Abstract)

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for minimizing the effort needed to adapt the software system (*Amenta et al*, page 385, left column, section 5, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al* and *Amenta et al* for the purpose of adapting the software system and forecasting accurately.

Regarding claim 6:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)
- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network
- instructions to report diagnosis results to a user (column 25, lines 39-45; column 30, lines 29-39)
- instructions to alert maintenance personnel (column 8, lines 35-42; column 30, lines 29-39)

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to

Art Unit: 2121

said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1)

Amenta et al teaches,

- instructions to provide an alarm signal (Abstract)

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for minimizing the effort needed to adapt the software system (*Amenta et al*, page 385, left column, section 5, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al* and *Amenta et al* for the purpose of adapting the software system and forecasting accurately.

Regarding claim 7:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)

Art Unit: 2121

- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network

- instructions to report diagnosis results to a user (column 25, lines 39-45; column 30, lines 29-39)

- instructions to alert maintenance personnel (column 8, lines 35-42; column 30, lines 29-39)

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1)

Amenta et al teaches,

- instructions to send a message (Abstract)

Art Unit: 2121

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for minimizing the effort needed to adapt the software system (*Amenta et al*, page 385, left column, section 5, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al* and *Amenta et al* for the purpose of adapting the software system and forecasting accurately.

Regarding claim 9:

Wang et al teaches,

- recognizing patterns (column 6, lines 38-42)
- classifying at least one of said patterns (column 6, lines 42-46)
- providing notification to expert system (ES) when a predetermined yield-degrading threshold value is passed (column 23, lines 29-48)
- executing responses from said expert system (ES) in accordance with said expert systems knowledge base (column 7, lines 9-15)

However, *Wang et al* doesn't explicitly teach weighting said at least one production yield trend or providing notification to expert system (ES) when at least one of said weighted trends passes a predetermined yield-degrading threshold value while *Neves et al* teaches,

- recognizing a plurality of production yield patterns (Abstract)
- classifying at least one of said production yield patterns into at least one production yield trend (page 10, left column, paragraph 1)

Art Unit: 2121

- weighting said at least one production yield trend (page 10, right column, paragraph 2)
- providing notification to expert system (ES) when at least one of said weighted trends passes a predetermined yield-degrading threshold value (page 10, right column, paragraph 3)

Amenta et al teaches,

- providing notification when at least one of said weighted trends passes a predetermined yield-degrading threshold value (page 379, right column, paragraph 7)

Motivation - The portions of the claimed method would have been a highly desirable feature in this art for minimizing the effort needed to adapt the software system (*Amenta et al*, page 385, left column, section 5, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al* and *Amenta et al* for the purpose of adapting the software system and forecasting accurately.

Regarding claim 11:

The rejection of claim 11 is similar to that for claim 6 as recited above since the stated limitations of the claim are set forth in the references. Claim 11's limitations difference is taught in *Amenta et al*:

- said alarm signal is a visual signal (page 380, subsection 2.2.2, right column, paragraph 3)

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* in view of *Neves et al* and in further view of *Kangping et al* "Towards more intelligent network management: service-oriented proactive fault management using KDD techniques" (28 June-2 July 2000).

Regarding claim 8:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)
- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network
- instructions to report diagnosis results to a user (column 25, lines 39-45; column 30, lines 29-39)
- instructions to alert maintenance personnel (column 8, lines 35-42; column 30, lines 29-39)

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network or instructions to send a report to predetermined individuals while *Neves et al* teaches,

Art Unit: 2121

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)
- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1)

Kangping et al teaches,

- instructions to adjust the production process (page 718, left column, subsection C) in accordance with the knowledge base of the system (page 718, left column, section IV)

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for collecting alarms/performance data (*Kangping et al*, page 715, right column, paragraph 1) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al* and *Kangping et al* for the purpose of collecting alarms/performance data as well as forecasting accurately.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* in view of *Neves et al* and in further view of NovellShareware.com (11/27/99).

Regarding claim 12:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)

Art Unit: 2121

- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network, instructions to send an e-mail message while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network (page 9, right column, paragraph 1)

NovellShareware.com teaches,

- instructions to send an e-mail message (PageManager Pro, page 1, paragraph 3)

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for forwarding alarms (NovellShareware.com, PageManager Pro, page 1, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time

the invention was made, to modify *Wang et al* as taught by *Neves et al* and NovellShareware.com, for the purpose of forecasting accurately and forwarding alarms.

Claim 10 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Wang et al* in view of *Neves et al* in view of *Amenta et al* and in further view of NovellShareware.com.

Regarding claim 10:

Wang et al teaches,

- an artificial neural network (ANN) for recognizing and classifying patterns (column 6, lines 38-46)
- an expert system (ES) coupled to said artificial neural network (column 7, lines 9-15) to provide a knowledge base and apply cognitive heuristics (column 5, lines 25-47) to execute responses based on patterns information received from said artificial neural network
- instructions to report diagnosis results to a user (column 25, lines 39-45; column 30, lines 29-39)
- instructions to alert maintenance personnel (column 8, lines 35-42; column 30, lines 29-39)

However, *Wang et al* doesn't explicitly teach an artificial neural network (ANN) for recognizing and classifying production yield patterns, an expert system (ES) coupled to said artificial neural network to provide a knowledge base and apply cognitive heuristics to execute responses based on production yield patterns information received from said

artificial neural network, instructions to send a report to predetermined individuals or said alarm signal is an audio signal while *Neves et al* teaches,

- an artificial neural network (ANN) for recognizing and classifying production yield patterns (Abstract)

- said artificial neural network to apply cognitive heuristics to execute responses based on production yield patterns information received from said artificial neural network

(page 9, right column, paragraph 1)

Amenta et al teaches,

- instructions to provide an alarm signal (Abstract)

NovellShareware.com teaches,

- said alarm signal is an audio signal (Alarm Vocalizer Pro, page 1, paragraph 2)

Motivation - The portions of the claimed system would have been a highly desirable feature in this art for repeating alarms until acknowledged (NovellShareware.com, Alarm Vocalizer Pro, page 1, paragraph 2), minimizing the effort needed to adapt the software system (*Amenta et al*, page 385, left column, section 5, paragraph 3) and accurate forecasting (*Neves et al*, page 9, right column, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Wang et al* as taught by *Neves et al*, *Amenta et al* and Alarm Vocalizer Pro for the purpose of adapting the software system as well as forecasting accurately and repeating alarms.

Regarding claim 13:

The rejection of claim 13 is similar to that for claims 7 and 10 as recited above since the stated limitations of the claim are set forth in the references. Claim 13's limitations difference is taught in NovellShareware.com:

- said message is a voice message (Alarm Vocalizer Pro, page 1, paragraph 2)

Regarding claim 14:

The rejection of claim 14 is similar to that for claims 7 and 12 as recited above since the stated limitations of the claim are set forth in the references. Claim 14's limitations difference is taught in NovellShareware.com:

- said message is a text message (PageManager Pro, page 1, paragraph 3)

Regarding claim 15:

The rejection of claim 15 is similar to that for claims 9 and 10 as recited above since the stated limitations of the claim are set forth in the references. Claim 15's limitations difference is taught in NovellShareware.com:

- instructions to send a voice message (Alarm Vocalizer Pro, page 1, paragraph 2)

Regarding claim 16:

The rejection of claim 16 is similar to that for claims 9 and 12 as recited above since the stated limitations of the claim are set forth in the references. Claim 16's limitations difference is taught in NovellShareware.com:

- instructions to send a text message (PageManager Pro, page 1, paragraph 3)

Regarding claim 17:

The rejection of claim 17 is similar to that for claims 9 and 12 as recited above since the stated limitations of the claim are set forth in the references. Claim 17's limitations difference is taught in NovellShareware.com:

- instructions to send an e-mail message (PageManager Pro, page 1, paragraph 3)

RESPONSE TO APPLICANTS' AMENDMENT REMARKS

Drawings, Specification and Claims Objections

Applicant argues that the changed drawings, specification and claims respond to objections in the Office Action mailed 5/18/04 (Amendment REMARKS page 9, paragraphs 2-4). Applicant's arguments have been fully considered and are persuasive. The earlier objections to the drawings, specification and claims are withdrawn. However, new issues in claims 5 and 10-17 (electronic report, audio and visual signals, voice message; e-mail and text message are considered electronic forms of reporting mentioned in [0024] on page 7) are noted. Claims 13 and 14's dependence on claim 7 should also be identified as a system.

Claim Rejections - 35 USC § 103

Applicant argues that the Declaration under 37 CFR 1.131 overcomes the Pires "Remote Monitoring and Inspection of Robotic Manufacturing Cells" reference effective date of 8-12 July 2001 (Amendment REMARKS page 9, paragraph 7 and page 10,

paragraph 1). The declaration is sufficient to overcome the Pires reference. However, Amenta "An Experiment in Standardizing Software for a Monitoring and Control Device for Power Stations" (21-25 Oct. 1990), Kangping "Towards more intelligent network management: service-oriented proactive fault management using KDD techniques" (28 June-2 July 2000) and NovellShareware.com (11/27/99) are applied in the above 35 USC 103 rejection of claims 5-17 to support the earlier rejection of claims 1-9.

Conclusion

The following prior art made of record is considered pertinent to applicant's disclosure:

- *Kuch*; USPN 4,878,843; Process and apparatus for conveying information through motion sequences
- *Cook et al*; USPN 5,727,950; Agent based instruction system and method
- *Moyne et al*; "A monitoring and diagnostics system for a plasma etching cell"; Advanced Semiconductor Manufacturing Conference and Workshop Proceedings; 21-23 Oct. 1991; pp 48-53

Any inquiry concerning this communication or earlier communications from the Office should be directed to Melvin Bell whose telephone number is 571-272-3680. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:00 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, Anthony Knight, can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MB / M.Y.


Anthony Knight
Supervisory Patent Examiner
Group 3600